

### **ABSTRACT**

Disclosed is a circuit and method for generating a tail current for a main reader amplifier (200) input stage using a scaled master differential stage (160) with a given offset to force a given output current, preceded by a balanced stage (150) to get a balanced offset. Current must be set by a feedback arrangement in the dummy master stage (160) which is a scaled version of the main reader amplifier input stage (200). The current derived in the dummy master stage (160), when appropriately scaled and used as the tail current of the main reader amplifier (200) input stage provides a precisely controlled gain.